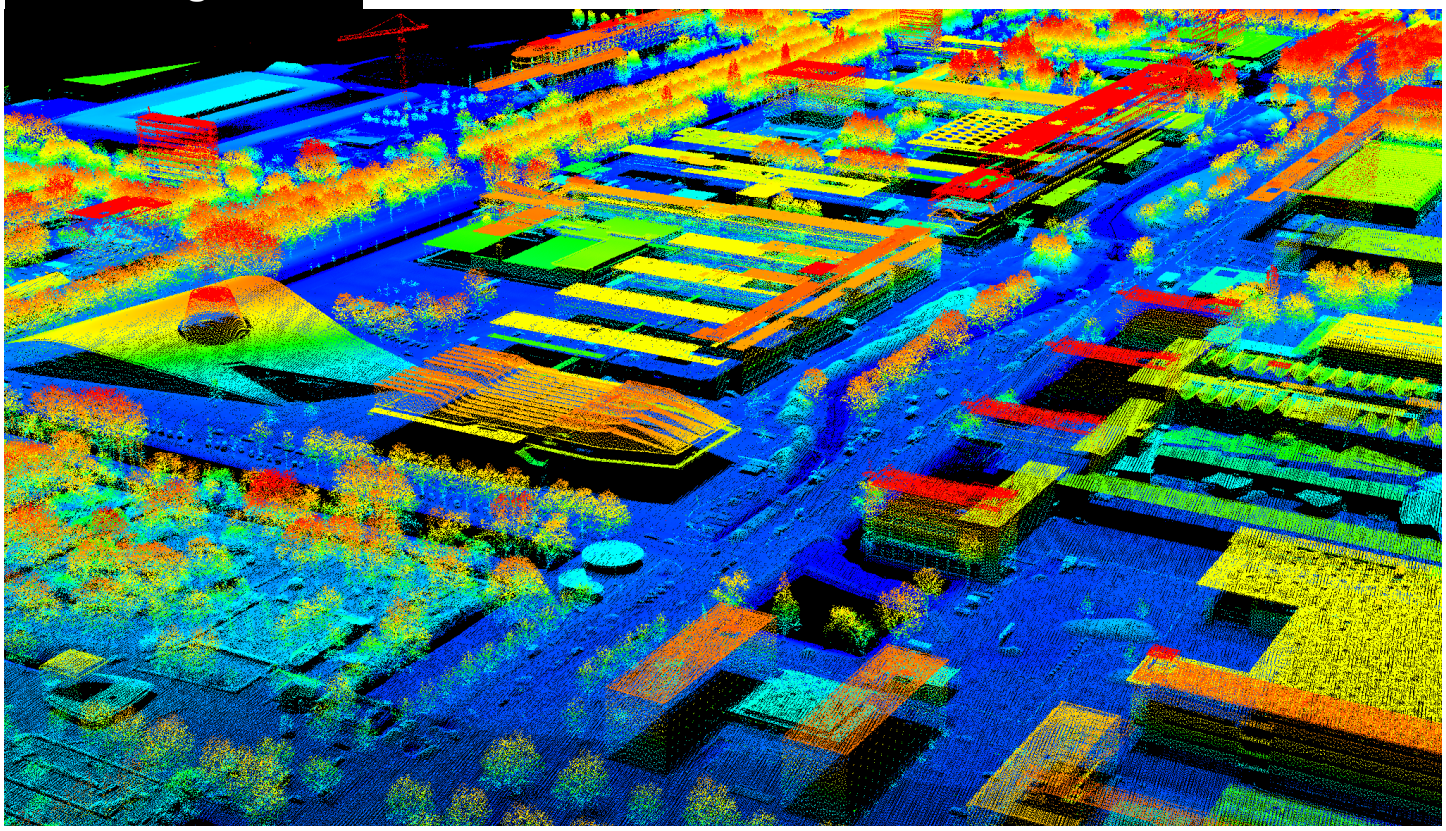
Geomatics for the Built Environment

MSc Programme



Geomatics for the Built Environment teaches you advanced techniques in data collection and analysis, 2D and 3D modelling, and the visualisation of these data. The sensing techniques that you learn give you the ability to measure and observe our built environment. Data management and analysis techniques allow you to turn these measurements into meaningful 3D information and knowledge. This allows you to identify patterns, track behaviour over time and predict the future state of the built environment.

Degree	Master of Science
Starts	September
Type	full-time
Credits	120 ECTS, 24 months
Language	English
Admission and application	admissions.tudelft.nl
More information	geomatics.tudelft.nl

You gain knowledge and develop skills and competences about the use, governance and application of geographic data for solving real-world challenges in unconventional ways and from unique perspectives.

You will develop and apply your skills in programming languages such as Python and C++, 3D modelling, GIS, simulation and visualisation; to a wide range of fields, such as mobility, indoor navigation, energy, disaster management, geo-design, and location-based services. The topics of the resulting student projects have a wide variety and range from the influence to 3D city lay-outs on air quality to using ceiling characteristics for indoor navigation. The analysis of the movement of people, the identification of heat islands through 3D modelling, and the use of automated building damage classification using remotely sensed data, to examining the influence of urban design on cyclist route choice in different weather conditions are other examples of how geodata can be used to gain new insights in the built environment. Geomat-

TU Delft

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<table>
<tr><th colspan="4">FIRST YEAR</th></tr>
<tr><th colspan="2">1ST SEMESTER</th><th colspan="2">2ND SEMESTER</th></tr>
<tr><td>SENSING TECHNOLOGIES</td><td>GEO DATABASE MANAGEMENT SYSTEMS</td><td>3D MODELLING OF THE BUILT ENVIRONMENT</td><td>GEOWEB TECHNOLOGY</td></tr>
<tr><td>GIS AND CARTOGRAPHY</td><td>DIGITAL TERRAIN MODELLING</td><td>GEO-INFORMATION GOVERNANCE</td><td>PHOTOGRAMMETRY AND 3D COMPUTER VISION</td></tr>
<tr><td>PYTHON PROGRAMMING FOR GEOMATICS</td><td>POSITIONING AND LOCATION AWARENESS</td><td colspan="2">FREE ELECTIVES/STUDY ABROAD</td></tr>
<tr><th colspan="4">SECOND YEAR</th></tr>
<tr><th colspan="3">3RD SEMESTER</th><th>4TH SEMESTER</th></tr>
<tr><td>FREE ELECTIVE/ STUDY ABROAD</td><td rowspan="2">OR: JOINT INTERDISCIPLINARY PROJECTS</td><td>GRADUATION PROJECT</td><td rowspan="2">GRADUATION PROJECT</td></tr>
<tr><td>SYNTHESIS PROJECT</td><td>FREE ELECTIVE/STUDY ABROAD</td></tr>
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ics gives you the power and responsibility to transform raw data into meaningful knowledge that can be used to solve and address pressing issues that our society is confronted with.

Student profile

Geomatics students have an engineering attitude and thorough knowledge of mathematics and statistics, or be willing to resolve deficiencies. Skills and interest in computer programming are a must. The background of our Geomatics students is international and diverse, with backgrounds ranging from civil engineering, geodesy, land surveying, physical geography, mathematics, computer science and architecture, urban and rural planning.

Programme

In the first year, the fundamentals of the different disciplines of geomatics are studied. This culminates in a large project in which you will tackle a real-world problem defined in co-operation with a company or a governmental agency (synthesis project). The first year and also the second year provide the opportunity to deepen or broaden your knowledge and skills through electives. Electives may be chosen from our own Geomatics programme, from MSc courses at TU Delft or from other national or international universities, or through an exchange study abroad. This year will end with graduation project.

Career prospects

Our graduates combine in-depth knowledge on the fundamentals of Geomatics with thorough programming skills; a mix highly appreciated by the professional field. After graduation, students have unique knowledge and competences directly applicable to real-world issues. A Master of Science in Geomatics offers students excellent career perspectives with abundant and diverse job opportunities. Our graduates work for a wide variety of employers, from large international enterprises to national SMEs and start-ups, from research and development organisations to government and academia.

Geomatics community

Geomatics immerses you in a close-knit community of leading researchers and practitioners in the domain of Geomatics. Several networking opportunities are provided to connect you to the job market and your peers. Examples are the annual TU Delft Geomatics day, the option to attend both national and international conferences and the activities organised by the Geomatics Study Association GEOS.

3rd
Faculty ranking in the world

71%
International MSc students

8,2
Student appreciation

≈25-30
students start each year

95%
Job within 6 months